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09/825,451	04/02/2001	Arthur Francis Champernowne	EXIN117029	1798
26389 7590 07/19/2007 CHRISTENSEN, O'CONNOR, JOHNSON, KINDNESS, PLLC 1420 FIFTH AVENUE SUITE 2800 SEATTLE, WA 98101-2347			EXAMINER MOONEYHAM, JANICE A	
			ART UNIT 3629	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/825,451

Applicant(s)

CHAMPERNOWNE, ARTHUR
FRANCIS

Examiner

Janice A. Mooneyham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 8-18, 20-30 and 32-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-6, 8-18, 20-30, 32-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. This is in response to the applicant's communication filed on May 17, 2007, wherein:

Claims 1-6, 8-18, 20-30 and 32-36 are currently pending;

Claims 1, 13, and 25 have been amended.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-6, 8-18, 20-30 and 32-36 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Applicant has amended independent claims 1, 13, and 25 to incorporate the following limitation:

wherein said partial fare solutions are eliminated based on a threshold cost determined, at least in part, according to the travel time of said partial fare solution

Applicant's specification discloses:

[0054] In understanding how the present invention is able to find the best fare(s) using only an implicit enumeration of possible solutions in an exemplary context, such as the air transportation context, rather than an explicit enumeration, it is helpful to understand the trip information used to

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describe and partition the possible solutions. FIG. 13A represents a single trip from an origin at point A 1310 to a destination at point B 1330. The breakpoints (e.g., any point along the route, including the origin and destination) for this flight are at points A 1310, C 1320 and B 1330. Point D 1315 is of some interest as it may also be an airport, but is not considered a breakpoint for purposes of determining carriers, flights or fares. It is merely a stopover point. The trip in FIG. 13A is composed of two fares, a first flight between origin point A and breakpoint C with flight number "MA #100" 1335 that has a stopover at point D 1315; and a second nonstop flight between breakpoint C and destination point B with a flight number "HA #200" 1340. ***For purposes of the present invention, the "cost" of this a trip is composed of the actual time to get from point A 1310 to point B 1330 combined with the sum of the fares for the flights in between.*** The combination may be weighted to provide price or total travel time as more important. It will be appreciated by those of ordinary skill in the art that any number of weighting or ranking schemes may be used to determine a cost using price and travel time (possibly including or excluding lay-over time). It is possible that other information may be used in addition or in place of price and travel time. Carrier reliability and/or reputation may also be considered, for example.

The applicant never sets forth how time is used to determine the price of the trip.

Applicant states that any number of weighting and ranking schemes may be used to determine the travel time using price and travel time (possibly including or excluding lay-over time). Applicant further states that other information may be used in addition or in place of price and travel time.

The Examiner asserts that the applicant has not provided sufficient guidance and direction to one skilled in the art to enable them to make or use applicant's invention without undue experimentation.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-6, 8-18, 20-30, and 32-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeMarcken et al. (US Patent No. 6,295,521) (hereinafter referred to as DeMarcken) in view of Keller et al (US 6,304,850) (hereinafter referred to as Keller)

Referring to Claims 1 and 25:

DeMarcken discloses a method and system for finding at least one best fare for a trip, comprising:

a system wherein a scheduler process (16) provides itineraries to a faring process (18) which produces a set of pricing solutions (38), and then an availability system (58) uses airline inventory database (20b) as a filter to remove from the set of pricing solutions those solutions for which seats are not available (col. 5, lines 1-12);

at the query server computer, in response to a fare query received from the client application (col. 1, lines 48-56, col. 3, line 55 thru col. 4, line 41, Figs. 2-3, 18, 19)

determining a set of partial fare solutions for the trip (Figs 1-18, col. 51 – Finding the Best Price, see line 26-29 – (partial) pricing solutions, col. 55, lines 51-56);

adding trip information to the partial fare solutions in order to define a set of complete fare solutions for the trip (Figs. 19-27, col. 4, lines 43-51, col. 5, lines 1-4, see also, col. 49, lines 30-44, col. 51, lines 35-55, Fig. 3);

as trip information is added to the partial fare solutions, eliminating partial fare solutions that are non-optimal partial solutions, wherein the partial fare solutions are eliminated on a cost/priceable unit determined, at least in part, according to the travel time of the partial fare solution (col. 5, lines 4-6- see also, col. 49, line 30 thru col. 50, line 39, Fig. 19, col. 2, lines 27-37, col. 53, line 25 thru col. 54, line 34, col. 55, lines 48-62 and (optimal travel times, times and dates (col. 4, lines 1-3 and 48-51) priceable unit restrictions wherein the minimum and maximum stay are priceable unit based, wherein a minimum stay requirement for a round-trip fare, for example constrains the combination of outbound and returning flights (col. 18, lines, 33-43).

DeMarcken further discloses a process including a manipulation process that manipulates the set of pricing solutions in the form of the directed acyclic graph representation in response to user preferences, the manipulation process including a pruning process responsive to user preferences that alters the directed acyclic graph representation in such a manner so as to eliminate undesirable pricing solutions (col. 2, lines 27-37). Demarken does not disclose that the partial fare solutions are eliminated based on threshold cost.

However, Keller discloses a method and apparatus for purchasing an airline ticket including entering into the computer information describing a flight desired by a consumer, including a target price (considered to by Examiner to be a threshold cost) and determining whether a flight found during the search has a fare that is at least equal to the target price (Figure 1 (103), Figure 4 (402) and Figure 6 (604) col. 1, line 66 thru col. 2, lines 27). Keller further discloses that is known that a consumer can specify a

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price at which she is willing to purchase an airline ticket for travel (col. 1, lines 30-47). Keller further discloses that user also enters the dates of departure and return or that the user may indicate her plans are flexible, such that the user may depart or return from one to three days before or after the entered travel dates and whether the flexibility is with respect to the date of departure or date of return and the number of days either before or after (col. 3, lines 13-30). Keller discloses that the BFP allows a user or a robotic agent to perform the search taking into account times of day (col. 4, lines 18-21) (Figure 3C (3207)). (The Examiner interprets this as threshold price, determined at least in part according to travel time).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate into the travel planning method and system of DeMarcken the ability to determine if a fare is at least equal to the target price as taught in Keller so that customers are able to purchase airline travel tickets at the best possible price and allow the customer to set their own price for airline travel.

Furthermore, the Examiner asserts that eliminating fares based on a threshold cost is old and well known practice in the field of airline reservations as shown in WO 00/13124 (a determination is then made as to whether price information associated with each item in the set substantially satisfies the target price (abstract and page 3 lines 3-11) and E-booking Takes Off (page 3 After you select a destination and maximum fare, a map appears showing the fares on the major routes that fall below your target fare)).

Applicant's admitted prior art discloses finding the least costly routes includes time and price ([0011] *it is possible to find the least costly (in both time and price) route(s)*).

Referring to Claim13:

DeMarcken discloses a medium and method for finding at least one best fare for a trip, comprising:

determining a set of partial fare solutions for the trip (Figs 1-18, col. 51 – Finding the Best Price, see line 26-29 – (partial) pricing solutions, col. 55, lines 51-56);

adding trip information to the partial fare solutions in order to define a set of complete fare solutions for the trip (Figs.19-27, col. 4, lines 43-51, col. 5, lines 1-4, see also, col. 49, lines 30-44, col. 51, lines 35-55, Fig. 3);

as trip information is added to the partial fare solutions, eliminating partial fare solutions that are non-optimal partial solutions, wherein said partial fare solutions are eliminated based on a cost/priceable unit, at least in part, according to the travel time of said partial fare solution (col. 5, lines 4-6- see also, col. 49, line 30 thru col. 50, line 39, Fig. 19, col. 2, lines 27-37, col. 53, line 25 thru col. 54, line 34, col. 55, lines 48-62) and (optimal travel times, times and dates (col. 4, lines 1-3 and 48-51) priceable unit restrictions wherein the minimum and maximum stay are priceable unit based, wherein a minimum stay requirement for a round-trip fare, for example constrains the combination of outbound and returning flights (col. 18, lines, 33-43);

determining whether a predetermined number of complete fare solutions have been found (col. 3, lines 45-48);

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repeating the steps (col. 3, lines 61-63; col. 6, lines 55-67); and
returning a subset of said complete fare solutions as the best fares for the trip
(Fig. 19, col. 1, line 46 thru col. 2, line 51, col. 49, lines 30-59, col. 51- Finding the Best
Pricing Solution, col. 55 47-62);

eliminating partial fare solutions according to travel time of the partial fare
solutions (optimal travel times, times and dates (col. 4, lines 1-3 and 48-51) priceable
unit restrictions wherein the minimum and maximum stay are priceable unit based,
wherein a minimum stay requirement for a round-trip fare, for example constrains the
combination of outbound and returning flights (col. 18, lines, 33-43).

DeMarcken further discloses a process including a manipulation process that
manipulates the set of pricing solutions in the form of the directed acyclic graph
representation in response to user preferences, the manipulation process including a
pruning process responsive to user preferences that alters the directed acyclic graph
representation in such a manner so as to eliminate undesirable pricing solutions (col. 2,
lines 27-37). Demarken does not disclose that the partial fare solutions are eliminated
based on threshold cost, or if the predetermined number of fare solutions have not been
found, increasing the price.

However, Keller discloses a method and apparatus for purchasing an airline
ticket including entering into the computer information describing a flight desired by a
consumer, including a target price (considered to by Examiner to be a threshold cost)
and determining whether a flight found during the search has a fare that is at least equal
to the target price (Figure 1 (103), Figure 4 (402) and Figure 6 (604) col. 1, line 66 thru

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col. 2, lines 27). Keller further discloses that is known that a consumer can specify a price at which she is willing to purchase an airline ticket for travel (col. 1, lines 30-47). Keller further discloses that user also enters the dates of departure and return or that the user may indicate her plans are flexible, such that the user may depart or return from one to three days before or after the entered travel dates and whether the flexibility is with respect to the date of departure or date of return and the number of days either before or after (col. 3, lines 13-30). Keller discloses that the BFP allows a user or a robotic agent to perform the search taking into account times of day (col. 4, lines 18-21) (Figure 3C (3207)). (The Examiner interprets this as threshold price, determined at least in part according to travel time).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate into the travel planning method and system of DeMarcken the ability to determine if a fare is at least equal to the target price as taught in Keller so that customers are able to purchase airline travel tickets at the best possible price and allow the customer to set their own price for airline travel.

Furthermore, the Examiner asserts that eliminating fares based on a threshold cost is old and well known practice in the field of airline reservations as shown in WO 00/13124 (a determination is then made as to whether price information associated with each item in the set substantially satisfies the target price (abstract and page 3 lines 3-11) and E-booking Takes Off (page 3 After you select a destination and maximum fare, a map appears showing the fares on the major routes that fall below your target fare)).

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Applicant's admitted prior art discloses finding the least costly routes includes time and price ([0011] *it is possible to find the least costly (in both time and price) route(s)*).

As for the limitation of increasing the threshold cost, the Examiner notes that this is a conditional statement that: determining whether a predetermined number of complete fare solutions have been found, and if not: increasing the threshold cost.

MPEP 2111.04 states that:

Claim scope is not limited by claim language that suggests or makes optional but does not require steps to be performed, or by claim language that does not limit a claim to a particular structure.

Thus, the "if " in the claim makes the limitation of increasing the threshold cost optional.

Furthermore, Keller discloses when the itineraries are returned and compared with the customer's target price, the customer is notified and a search can be performed again (Figure 6 (603-608)). Therefore, it is common sense that if a person wanted to go from point A to point B and the first target price retrieved no results, the next thing to do would either make the travel dates flexible, the travel times flexible, or the target price.

Therefore, the Examiner asserts that one of ordinary skill in the art would incorporate into the travel planning system of DeMarcken and Keller the ability to increase the target price so that travel plans can be successfully completed.

Referring to Claims 3, 15, and 27:

DeMarcken discloses the method and system of claims 1, 13 and 25, wherein said subset of complete fare solutions is a predetermined number of lowest cost fare

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solutions (col. 2, lines 31-37, col. 4, lines 30-41, col. 5, lines 18-20 (solutions are arranged according to price) col. 6, lines 16-19, see also col. 28, line 60 thru col. 29, line 3, col. 29, lines 63-67- deferred rules, Fig. 4B, Fig. 19, it can be inferred that a subset can have a predetermined number of lowest cost fare solutions, col. 49, lines 30-59, col. 51, lines 3-55, col. 52- Finding Minimum Value).

Referring to Claims 9, 10, 21, 22, 33, and 34:

DeMarcken discloses the method and system of claims 1, 13 and 25 wherein said partial fare solutions are stored in a priority queue, said complete fare solutions are retrieved from a priority queue (cols. 55-61—Enumerating Pricing Solutions).

Referring to Claims 4, 16 and 28:

Demarcken discloses wherein said subset of complete fare solutions is an exhaustive set of said complete fare solutions (pricing solutions provided by DeMarcken to the consumer include all of the partial fare solutions for which seats are available (col. 5, lines 18-20). As set forth in the Board decision dated June 21, 2006, the subset of the partial fare solutions is an exhaustive set of the complete fare solutions, i.e., the pricing solutions (page 7 of Board decision).

Referring to Claims 5, 17, and 29:

DeMarcken discloses wherein adding trip information and eliminating partial fare solutions are performed in a recursive manner (Recursive means “of, relating to, or constituting a procedure that can repeat itself indefinitely or until a specified condition is met.” DeMarcken discloses an availability system that uses the airline inventory database (20b) as a filter until each pricing solution for which seats are unavailable has

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been removed (col. 5, lines 10-13). Thus, the process is repeated until a specified condition is met, i.e., all the pricing solutions for which seats are unavailable have been removed, therefore performing the process in a recursive manner.

Referring to Claims 6, 18, and 30:

DeMarcken discloses wherein adding trip information and eliminating partial fare solutions are performed in an iterative manner (col. 5, lines 10-13 – process of removing pricing solutions for seats that are unavailable, the desired result of removing pricing solutions for which seats are unavailable is approximated more and more closely (Iterative meaning relating or being a computational procedure in which replication of a cycle of operations produces results which approximate the desired result more and more closely- see pages 7-8 of Board decision).

Referring to Claims 8, 20, and 32:

DeMarcken discloses wherein said partial fare solutions are eliminated based on a refined lower bound (availability of at least one seat – see Board decision pages 7-9).

Referring to Claims 11, 23, and 35:

DeMarcken discloses wherein adding trip information and eliminating partial fare solutions are performed as part of a branch-and-bound best fare search routine (Figures 3A-3B, col. 1, lines 57-65, col. 2, lines 17-51)

Referring to Claims 12, 24, and 26:

DeMarcken discloses wherein adding trip information and eliminating partial fare solutions are performed both backward and forward from a destination and origin (col.

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1, lines 48-65 (travel request information would include destination and origin; col. 2, lines 17-51).

1. Claims 2, 14, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeMarcken.

Referring to Claim 2, 14, and 26:

DeMarcken discloses the method and system of claims 1, 13, and 25, wherein adding trip information comprises:

supplying a fare query to a root node in a solution tree (col. 1, lines 46-65, col. 7, lines 16-18, Figs. 2 (48), 3, 3A, 3B, see also, col. 5, lines 36-45);

assigning fare components corresponding to said root node to a plurality of nodes (Figs. 2 - faring process (18), 3, 3A, 3B, , col. 1, line 46-65, col. 2, lines 38-51, col. 15, lines 55-66 Fig. 3A);

assigning at least one carrier corresponding to said nodes to a plurality of nodes (Fig. 3A (UA (United Airline, NW (North West), Fig. 6, (114);

assigning at least one flight corresponding to said nodes to a plurality of nodes (Fig. 3, US Bos –LAX Rt QE7NR, Bos-San UAA515), Fig. 2, scheduler processor (16), col. 3, lines 55-66, see also, col. 14, lines 1-6);

assigning at least one priceable unit corresponding to said nodes to a plurality of nodes (pricing solution, col. 3, lines 55-66); and

assigning at least one fare corresponding to said nodes to a plurality of leaf nodes (Fig.3A, 3B, Fig. 4A (fares or each faring atom, Col. 10 – The Faring System- Fig. 19).

DeMarcken does not disclose assigning the fare components to a plurality of first nodes, at least one carrier to a plurality of second nodes, at least one flight corresponding to a plurality of third nodes, assigning at least one pricable unit to a plurality of fourth nodes, and assigning at least one fare corresponding to a plurality of leaf nodes.

However, Demarcken discloses a data structure comprising a plurality of nodes that can be logically manipulated using value functions and a graph that contains nodes that can be logically manipulated or combined to extract a plurality of pricing solutions. (col. 2, lines 38-51). It would have been obvious to ordinary skill in the art to arrange DeMarcken's method and system to include the assignment of nodes as set forth in Claim 2, 14, 26 since DeMarcken 's system and method discloses a data structure comprising a plurality of nodes which can be logically manipulated or combined and this would include assigning the nodes as set forth Claims 2, 14, and 26.

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Response to Arguments

2. Applicant's arguments filed May 17, 2007 have been fully considered but they are not persuasive. The arguments are directed to the new limitations which have been addressed in the rejection.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

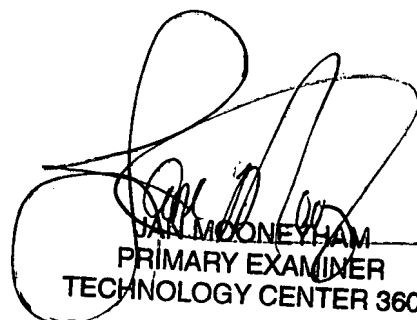
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janice A. Mooneyham whose telephone number is (571) 272-6805. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Weiss can be reached on (571) 272-6812. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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